

PATENT
Docket DE132659

NOT AVAILABLE COPY

In the Specification

Please substitute the following paragraphs for the corresponding paragraphs being amended:

[0010] However, this long and hot operating condition presents extreme challenges in cooling the high pressure turbine rotor using the currently available superalloy disk materials. By operating the compressor for achieving high discharge pressure of the air used in the combustion process, the temperature of that high pressure air is correspondingly increased which decreases the ability of that CHP air to cool the high pressure turbine. Adequate cooling of the turbine is required for ensuring a long useful life thereof and to reduce the need for periodic maintenance.

[0015] More specifically, the first turbine is illustrated in more detail in Figure 2 Figures 2 and 3 and comprises a first rotor disk 26 having forward and aft sides or faces extending radially inwardly from the perimeter rim to a thinner web terminating in a larger central hub. The hub includes a center bore, and a row of first stage turbine rotor blades 46 extends radially outwardly from the rim of the turbine disk.

[0070] Notwithstanding the substantial pressure loss in the combustion gases as they flow over the first stage rotor blades during operation, the two backflow margins near the leading and trailing edges of the airfoils may remain within the ratio of about 1.5 for preventing excess backflow which could cause undesirable blowoff or lift-off of the air discharged from the airfoil film cooling air.